

Comparisons of Job Characteristics

Focus Occupation: Environmental Engineers (17-2081)

Associated Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)

Compare Knowledge

Compare Skills

Compare Abilities

Compare Detailed Work Activities

Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 89

Focus Occupation: Environmental Engineers (17-2081)

Associated Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Engineering and Technology	5.7	18.9	21.7	> Current knowledge level is likely sufficient
Design	5.2	15.9	17.2	0 Current knowledge level may be sufficient
Mathematics	9.2	15.1	16.3	0 Current knowledge level may be sufficient
Physics	4.3	14.1	15.7	> Current knowledge level is likely sufficient
Public Safety and Security	6.9	14.0	12.0	< Expanded education and/or training may be required
Chemistry	4.8	13.0	15.8	> Current knowledge level is likely sufficient
Law and Government	5.9	12.4	13.6	0 Current knowledge level may be sufficient
Building and Construction	4.0	10.3	13.0	> Current knowledge level is likely sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 93

Focus Occupation: Environmental Engineers (17-2081)

Associated Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Critical Thinking	10.8	14.4	14.5	0 Current skill level may be sufficient
Science	4.5	12.4	11.4	0 Current skill level may be sufficient
Operations Analysis	5.0	11.0	11.0	0 Current skill level may be sufficient
Systems Analysis	6.5	10.6	13.1	> Skill level is likely sufficient
Systems Evaluation	6.4	10.5	11.7	> Skill level is likely sufficient
Technology Design	2.6	5.8	5.5	0 Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 97			
Focus Occupation: Environmental Engineers (17-2081) Associated Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Problem Sensitivity	11.1	15.3	17.0	>	Current ability level is likely sufficient
Inductive Reasoning	10.2	14.3	15.4	0	Current ability level may be sufficient
Deductive Reasoning	10.6	14.1	16.2	>	Current ability level is likely sufficient
Written Comprehension	11.0	14.1	16.0	>	Current ability level is likely sufficient
Written Expression	9.8	13.4	13.9	0	Current ability level may be sufficient
Near Vision	11.1	12.7	13.0	0	Current ability level may be sufficient
Information Ordering	9.9	11.9	14.2	>	Current ability level is likely sufficient
Fluency of Ideas	7.6	11.0	12.2	>	Current ability level is likely sufficient
Flexibility of Closure	7.8	10.9	13.5	>	Current ability level is likely sufficient
Far Vision	7.8	10.2	12.0	>	Current ability level is likely sufficient
Speed of Closure	5.9	8.2	11.2	>>	Current ability level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 83
Focus Occupation: Environmental Engineers (17-2081) Associated Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)		
Work Activities	Exclusivity of Activity	
Adhere to safety procedures	12	
Advise clients regarding engineering problems	67	
Analyze engineering design problems	69	
Analyze technical data, designs, or preliminary specifications	47	
Collect scientific or technical data	30	
Communicate technical information	4	
Develop plans for programs or projects	31	
Direct and coordinate activities of workers or staff	3	
Evaluate engineering data	60	
Examine engineering documents for completeness or accuracy	62	
Explain complex mathematical information	30	
Follow safe waste disposal procedures	50	
Plan testing of engineering methods	72	

Prepare safety reports	60
Prepare technical reports or related documentation	22
Read technical drawings	7
Resolve engineering or science problems	46
Test air quality, noise, temperature, or radiation	82
Test equipment as part of engineering projects or processes	67
Understand engineering data or reports	48
Use drafting or mechanical drawing techniques	50
Use government regulations	44
Use hazardous materials information	35
Use intuitive judgment for engineering analyses	72
Use mathematical or statistical methods to identify or analyze problems	30
Use pollution control techniques	62
Use scientific research methodology	21
Use technical regulations for engineering problems	61

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 68

Focus Occupation: Environmental Engineers (17-2081)

Associated Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)

Tools and Technologies	Exclusivity
Business function specific software	1
Chemical evaluation instruments and supplies	10
Computer data input devices	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Development software	4
Electrical measuring and testing equipment	7
Electrochemical measuring instruments and accessories	9
Fluid mechanics equipment	11
Gas analyzers and monitors	10
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory enclosures and accessories	17
Laboratory furnaces and accessories	26
Laboratory ovens and accessories	15
Light and wave generating and measuring equipment	4
Liquid and gas flow measuring and observing instruments	15
Liquid and solid and elemental analyzers	19
Metals and metallurgy and structural materials testing instruments	15

Sampling equipment	12
Spectroscopic equipment	10
Temperature and heat measuring instruments	6

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.